



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/816,686	04/01/2004	Ken L. Chang	K35A1433	9721

35219 7590 11/01/2006

WESTERN DIGITAL TECHNOLOGIES, INC.
ATTN: SANDRA GENUA
20511 LAKE FOREST DR.
E-118G
LAKE FOREST, CA 92630

EXAMINER

KAYRISH, MATTHEW

ART UNIT

PAPER NUMBER

2627

DATE MAILED: 11/01/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/816,686	CHANG ET AL.	
	Examiner	Art Unit	
	Matthew G. Kayrish	2627	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 August 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-17 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 01 April 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

Claims 18-22 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected method of manufacture, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on 8/18/2006.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chang et al (US Patent Number 7092216), in view of Hong et al (US Publication Number 2003/0197980).

Regarding claims 1, 4 and 17, Chang et al disclose:

A disk drive comprising:

An actuator rotatably coupled (figure 8, via item 34) to the disk drive base (figure 8, item 16), the actuator comprising:

An actuator body formed of an integrated stamped material (column 4, lines 18-21), actuator body including:

A main body section (figure 7, area circulating items 225 & 240) defining a horizontal plane orthogonal to an axis of rotation (figure 7, the actuator body defines a horizontal plane);

An actuator arm extending from the main body section (figure 7, items 204 & 206);

Two support extensions (figure 7, items 205 & 207 on both sides) extending from the main body section opposite the actuator arm, the support extensions cooperatively forming a channel between the support extensions (figure 6, support extensions define a channel); and

A coil support tab disposed adjacent the support extensions and extending orthogonal to the horizontal plane (figure 6, items 209 & 215).

Chang et al fails to specifically disclose:

Two parallel support extensions; and

A vertical coil defining a coil plane disposed orthogonal to the horizontal plane, the coil being disposed in mechanical communication with the support extensions and the coil support tab for supporting the coil within the channel.

Hong et al disclose:

Two parallel support extensions (figure 6, items 40 are parallel);

and

A vertical coil defining a coil plane disposed orthogonal to the horizontal plane (figure 6, item 42), the coil being disposed in mechanical communication

with the support extensions and the coil support tab for supporting the coil within the channel (figure 6, item 40 supports the coil).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide Chang et al with a vertical coil and parallel support portions, as taught by Hong et al, because a vertical coil of a VCM is a well known equivalent in the art. Moreover, by making Chang et al's coil of the form of Hong et al's, the voice coil would be in communication with the tabs, as shown by Chang et al in figure 7.

Regarding claim 2, Chang et al fails to specifically disclose:

Wherein the actuator body is formed of a single integrated piece of material.

Hong et al disclose:

Wherein the actuator body is formed of a single integrated piece of material (figure 6, item 26 is one piece).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to make the actuator body of Chang et al out of a single integrated piece, as taught by Hong et al, because this would make assembly easier.

Regarding claim 3, Chang et al disclose:

The actuator of claim 1, wherein the coil support tab is integrally formed with the main body section (figures 6 & 7).

Regarding claim 5, Chang et al disclose:

The actuator of claim 1, wherein the actuator body is formed of a sheet metal material (column 4, lines 18-21).

Regarding claim 6, Chang et al disclose:

The actuator of claim 1, wherein the coil support tab extends from the main body section (figures 6 & 7).

Regarding claim 7, Chang et al disclose:

The actuator of claim 1, wherein the coil support tab is disposed between the support extensions (figures 6 & 7).

Regarding claim 8, Chang et al disclose:

The actuator of claim 1, wherein the coil support tab is bent from a position between the support extensions within the horizontal plane (figures 6 & 7, support extensions are bent from plane).

Regarding claim 9, Chang et al disclose:

The actuator of claim 1, wherein the coil includes a pair of opposing primary legs (figure 7, right & left sides of coil) and pair of opposing secondary legs respectively disposed between the primary legs (figure 7, front & back of coil), a respective one of the primary legs is disposed in mechanical communication with the support extensions within the channel (figure 7, communication via adhesive [228 & 230]), a respective one of the secondary legs is disposed in mechanical communication with the coil support tab (figure 7, communication via adhesive [232]).

Regarding claim 10, Chang et al disclose:

The actuator of claim 8, wherein the respective one of the secondary legs includes a radially exterior surface disposed in mechanical communication with coil support tab (figure 7, the exterior radius of the front leg of the coil contacts the support tab).

Regarding claim 11, Chang et al disclose:

The actuator of claim 8, wherein the primary legs are longer than the secondary legs (figure 7, front secondary leg is shorter than the side primary legs).

Regarding claims 12 and 13, Chang et al disclose:

The actuator of claim 1, wherein the coil is attached to the support tab (figure 7, via adhesive [232]) with an adhesive (figure 7, item 232).

Regarding claims 14 and 15, Chang et al disclose:

The actuator of claim 1, wherein the coil is attached to the support extensions with an adhesive (figure 7, via adhesive [228 & 230]).

Regarding claim 16, Chang et al disclose:

The actuator of claim 1, wherein the support extensions extend from the main body section along the horizontal plane (figure 7, support extensions are along horizontal plane).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Matthew G. Kayrish whose telephone number is 571-272-4220. The examiner can normally be reached on 8am - 5pm M-F.

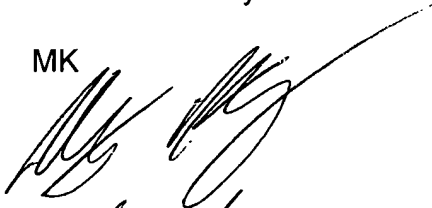
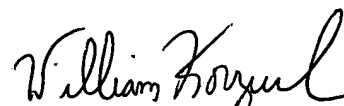
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, William Korzuch can be reached on 571-272-7589. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Matthew G. Kayrish

10/25/2006

MK


10/25/06
WILLIAM KORZUCH
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600